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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,034	11/30/2000	Gregory J. Conley	3914-02A	3004
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WITHROW & TERRANOVA, P.L.L.C. P.O. BOX 1287 CARY, NC 27512			EXAMINER NGUYEN, LUONG TRUNG	
			ART UNIT	PAPER NUMBER
			2612	
DATE MAILED: 04/25/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/727,034

Applicant(s)

CONLEY, GREGORY J.

Examiner

LUONG T NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/21/04; 6/23/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. The Applicant has attempted to provoke an interference with U.S. Patent No. 6,154,251. However, an interference will not be declared unless those claims are both supported by the Applicant's disclosure and patentable over the prior art. Since claims 4-30 do not meet these requirements (as detailed below), an interference will not be declared at this time.

Drawings

2. The drawings are objected to because of the following informalities:

In Figure 1B, label "FIG. 1B" should be changed to "FIG. 1A" because the parent application No. 08/598,158 discloses this figure as FIG. 1A; and the specification, page 3, line 30 discloses "Fig. 1A shows 10 video camera devices".

In Figure 1A, label "FIG. 1A" should be changed to "FIG. 1B" because the parent application No. 08/598,158 discloses this figure as FIG. 1B; and the specification, page 4, line 2 discloses "Fig. 1B shows frames of a diver, ready to be rotated".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

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be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because the form and legal phraseology often used in patent claims, such as "said," should be avoided.

Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities:

In the specification, page 5, line 9, "plurality or motion video cameras" should be changed to --plurality of motion video cameras--.

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On page 5, line 11, "In figure 1" should be changed to --In figure 1A--.

On page 6, line 34, "figures 2A and 2B" should be changed to --FIG. 2--; it is noted that the specification (page 4, line 4) and the drawings only disclose FIG. 2.

On page 13, line 7, "See figure 3" should be changed to --See figure 3A--.

In the disclosure of the specification, the text should not be underlined. Therefore, the text in the specification, page 2, from line 7 (Smith U.S. patent 891,013 June 16, 1908) through line 30 (Morioka U.S. patent 4,239,359 Dec 16, 1980) should not be underlined.

For the same reason, on page 3, lines 4-5, "novel shapes and dispositions of camera arrays" should be changed to --novel shapes and dispositions of camera arrays--;

On page 3, lines 16-17, "arrays of various receiver devices" should be changed to --arrays of various receiver devices--;

On page 3, line 24, "captured, manipulated, and combined" should be changed to --captured, manipulated, and combined--;

On page 3, line 25, "presented" should be changed to --presented--;

On page 11, line 23, "output to vertical" should be changed to --output to vertical--;

On page 12, line 4, "array positional and optical attributes" should be changed to --array positional and optical attributes--;

On page 12, line 5, "image attributes" should be changed to --image attributes--;

On page 14, line 27, "combine" should be changed to --combine--.

Appropriate correction is required.

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6. The amendment filed 3/23/2001 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The amendment, which filed on 3/23/2001, adds news drawings "FIG. 1C, and FIGS. 8-15", which were not filed in the original parent application 08/251,398 and 08/598,158.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 4-11, 17-21, 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 4, the claim recites the limitation "means for transferring said still images from said cameras into **a digital data format**; means for transferring said **digital data** into a time-sequence of frames." The specification (page 3, line 30 – page 4, line 2; page 5, lines 8-31, page 7, lines 7-15, and original claims 1, 2) and Figures 1B and 3A fail to disclose the

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feature “**digital data format**”. There is no disclosure of the feature “digital data format” in the whole specification, either.

Regarding claim 8, the claim recites the limitation “transferring said still images from said cameras into a **digital data format**”. The specification (page 3, line 30 – page 4, line 2; page 5, lines 8-31, page 7, lines 7-15, and original claims 1, 2) and Figures 1B and 3A fail to disclose the feature “**digital data format**”. There is no disclosure of the feature “digital data format” in the whole specification, either.

Regarding claim 17, the claim recites the limitation “**a two-dimensional array of cameras**” and “means for transferring said still images from a selected sequence of said cameras along a selected path in said **two-dimensional array** to produce a sequence of frames in said motion picture medium”. The specification (page 3, lines 4-13; page 3, line 30 – page 4, line 10; page 5, lines 8-31; page 6, lines 7-26; page 6, line 28 – page 7, line 20; page 10, line 13 – page 11, line 7; and original claims 1, 2) and Figures 1B, 2, 3A, 4, 8, 9, and 11-15 fail to disclose the feature “**a two-dimensional array of cameras.**” It is noted that on page 3, lines 4-13, lines 30 – 35 only disclose linear, or curvilinear or circular array of cameras. There is no disclosure of the feature “a two-dimensional array of cameras” in the whole specification, either.

Regarding claim 25, the claim recites the limitation “**said array of video cameras is two dimensional**”. The specification (page 3, lines 4-13; page 3, line 30 – page 4, line 10; page 5, lines 8-31; page 6, lines 7-26; page 6, line 28 – page 7, line 20; page 10, line 13 – page 11, line 7;

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and original claims 1, 2) and Figures 1B, 2, 3A, 4, 8, 9, and 11-15 fail to disclose the feature **“said array of video cameras is two-dimensional.”** It is noted that on page 3, lines 4-13, lines 30 –35 only disclose linear, or curvilinear or circular array of cameras. There is no disclosure of the feature **“said array of video cameras is two-dimensional”** in the whole specification, either.

Claims 5-7 are rejected as being dependent on claim 4.

Claims 9-11 are rejected as being dependent on claim 8.

Claims 18-21 are rejected as being dependent on claim 17.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 12, 14-15, 22, 24, 26, 28-29, 31-32, 34-35, 37-38 are rejected under 35

U.S.C. 102(b) as being anticipated by Ditchburn et al. (U.S. 5184,732).

Regarding claim 12, Ditchburn et al. discloses a system for producing virtual camera motion in a motion picture medium comprising an array of cameras (electronic viewers 5, Figure 1, Column 3, Lines 37-40) deployed along a preselected path with each camera focused on a common scene (a viewing zone, Figure 1, Column 3, Lines 37-40); means for triggering (light curtain 3 triggers a strobe for signaling the electronic viewers 5 simultaneously capture the objects, Figure 1, Column 3, Lines 27-36) each of said cameras to simultaneously record a still

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image of said scene; and means for transferring said still images from said cameras in a preselected order along said path onto a sequence of frames in said motion picture medium (the sequence of frames in the motion picture medium takes place during the scanning (by scanner 13) of the images of the object taken by electronic viewers 5 (Figure 2, Column 4, Lines 27-28. The feature “creating the illusion that a single motion picture camera has moved along said path” is recited as a functional language. Since Ditchburn et al. discloses all the structural limitations of the apparatus claimed in claim 12, Ditchburn et al. meets the claim. See MPEP, section 2114.

Regarding claims 14, 28, Ditchburn et al. discloses each camera from said array of cameras comprises a video camera (electronic viewers 5, Figures 1-2, Column 3, Lines 37-40, Column 4, Lines 12-15) that electronically records said still image as a video frame.

Regarding claims 15, 24, 29, Ditchburn et al. discloses motion picture medium comprises video storage means (memory 16, Figure 2, Column 4, Line 30).

Regarding claim 22, Ditchburn et al. discloses a system for producing virtual camera motion in a motion picture medium comprising an array of cameras (electronic viewers 5, Figure 1, Column 3, Lines 37-40) focused on a common scene (a viewing zone, Figure 1, Column 3, Lines 37-40); means for triggering (light curtain 3 triggers a strobe for signaling the electronic viewers 5 simultaneously capture the objects, Figure 1, Column 3, Lines 27-36) each of said cameras to simultaneously capture a time sequence of still images of said scene in plurality of video cameras; a processor (computer 12, Figure 2, Column 4, Lines 27-28) receiving said video

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frames from said video cameras and generating said motion picture medium containing said still images from a series of said video frames (the motion picture medium containing the still images takes place during the scanning (by scanner 13) of the images of the object taken by electronic viewers 5 (Figure 2, Column 4, Lines 27-28.

The feature “creating the illusion that a single camera has moved along the path of said array of video cameras” is recited as a functional language. Since Ditchburn et al. discloses all the structural limitations of the apparatus claimed in claim 22, Ditchburn et al. meets the claims. See MPEP, section 2114.

Regarding claim 26, claim 26 is a method claim of apparatus claim 12. Therefore, claim 26 is rejected for the reason given in claim 12, except the feature “creating the illusion that a single motion picture camera has moved along said path,” which is recited as a functional language; is inherently disclosed in Ditchburn et al. The act of simultaneously taking a picture with multiple cameras and outputting the pictures sequentially inherently achieves this effect.

Regarding claim 31, Ditchburn et al. discloses a system for creating virtual camera motion comprising:

a) an array of video cameras (electronic viewers 5, Figure 1, Column 3, Lines 37-40) deployed along a path with each video camera focused on a common scene (a viewing zone, Figure 1, Column 3, Lines 37-40), the array comprising a plurality intermediate video cameras between a first video camera (the first viewer 5 on the upper side of the path with nine viewers 5,

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Figure 2) and a second video camera along the path (the last viewer 5 on the lower side of the path with nine viewers, Figures 1-2, Column 3, Lines 37-40);

b) a control system (computer 12, Figure 2, Column 4, Lines 27-30) associated with the array of video cameras and adapted to:

i) receive video from at least the first and second video cameras (computer 12 receives video from viewers 5, Figure 2, Column 4, Lines 27-30);

ii) select a first portion of video from the first camera ending at a first time (computer 12 receives video from the first viewer 5 at a first time via scanner 13, Figure 2, Column 4, Lines 27-30);

iii) select a second portion of video from the second video camera beginning at a second time (computer 12 receives video from the last viewer 5 at a second time via scanner 13, Figure 2, Column 4, Lines 27-30);

iv) select images from the plurality intermediate cameras corresponding to a time equal to or between the first and second times (computer 12 receives video from intermediate viewer 5 between the first viewer 5 and the last viewer 5 via scanner 13, Figure 2, Column 4, Lines 27-30);

v) create a resultant video providing a video sequence of the first portion of video, a sequence of the images from the plurality of intermediate cameras, and the second portion of video (a video sequence of the first portion of video and the second of video takes place during the sequential of the scanning of the images captures by viewers 5, Figure 2, Column 4, Lines 27-30).

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The feature “creating an illusion of that a single camera remained still during the first portion of video at a position of the first video camera and moved along the path to a position of the second video camera for the second portion of video” is recited as a functional language. Since Ditchburn et al. discloses all the structural limitations of the apparatus claimed in claim 31, Ditchburn et al. meets the claim. See MPEP, section 2114.

As for claim 34, all the limitations are contained in claim 31, therefore, claim 34 is rejected for the reason given in claim 31.

Regarding claim 37, claim 37 is a method claim of apparatus claim 34. Therefore, claim 37 is rejected for the reason given in claim 34, except the feature “creating an illusion of that a single camera remained still during the first portion of video at a position of the first video camera and moved along the path to a position of the second video camera for the second portion of video” which is recited as a functional language, is inherently disclosed in Ditchburn et al.

Regarding claims 32, 35, 38, Ditchburn et al. discloses wherein the first and second times are equal and the select images from the plurality of intermediate cameras correspond to the first and second times to create an illusion that time has stopped during the illusion of the single camera moving from the first position to the second position (Ditchburn et al. all the viewers 5 are trigger simultaneously (Figure 1, Column 3, Lines 25-30), therefore, the first time at which the portion of video from the first viewer 5 (on upper part, Figure 2) and the second time at which the portion of video from second viewer 5 (on lower part, Figure 2) are equal.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 13, 16, 23, 27, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ditchburn et al. (U.S. 5,184,732) in view of Collender (U.S. 3,815,979).

Regarding claims 13, 27, Ditchburn et al. fails to specifically disclose each camera from said array of cameras records said still image on photographic film. However, Collender teaches images captured by cameras 1 through n are recorded on film (Figure 1, Column 3, Lines 43-51). Therefor, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Ditchburn et al. by the teaching of Collender in order to store the captured images on photographic film. This allows the recording an image at a high resolution and produces a standard television signal from photographic film, in which the signal is free from visible flicker.

Regarding claims 16, 23, 30, Ditchburn et al. fails to specifically disclose said motion picture medium comprises motion picture film. However, Collender teaches pictures may be recorded on ordinary motion picture film (Figure 1, Column 6, Lines 58-68). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Ditchburn et al. by the teaching of Collender in order to store the captured images on photographic film. This allows the recording an image at a high resolution and

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produces a standard television signal from photographic film, in which the signal is free from visible flicker.

13. Claims 33, 36, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ditchburn et al. (U.S. 5,184,732) in view of Wilkinson et al. (U.S. 4,453,182).

Regarding claims 33, 36, 39, Ditchburn et al. fails to specifically disclose wherein the first and second times differ by a time period and the select images from the plurality of intermediate cameras correspond to different times throughout the time period to create an illusion that time has slowed during the illusion of the single camera moving from the first position to the second position. However, Wilkinson et al. a television system, which includes plurality of video cameras, the cameras are sequentially triggered by a sequential switch 40 (Figures 1-3, Column 3, Lines 50-59, Column 4, Lines 44-55, Column 5, Line 28 through Column 6, Line 57). This shows that the first time and second times differ by a time period. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Ditchburn et al. by the teaching of Wilkinson et al. in order to provide a system which forms images at a greater speed than that presently possible from a single camera and permits the forming of images virtually one right after the other (Column 3, Lines 22-28).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Collender (U.S. 4,089,597) discloses stereoscopic motion picture scanning reproduction method and apparatus.

Astle (U.S. 4,698,682) discloses video apparatus and method for producing illusion of motion from a sequence of still images.

Smith et al. (U.S. 5,022,727) discloses method and apparatus for production full color stereoscopic holograms.

Montes (U.S. 5,237,353) discloses process for three-dimensional taking, copying and reproducing of still and moving pictures.

DeAngelis et al. (U.S. 5,657,077) discloses event recording system with digital line camera.

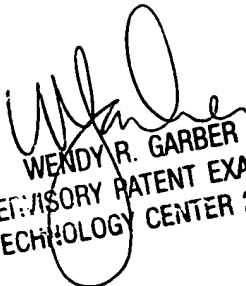
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T NGUYEN whose telephone number is (571) 272 - 7315. The examiner can normally be reached on 7:30AM - 5:00PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272 - 7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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4/10/05


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